

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Rule 53(b) Divisional Application of USSN 09/035,907:

Tomoki SHIBASAKI et al.

Serial Number: Unassigned

Group Art Unit: 2663 (expected)

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Examiner: H. YU (expected)

For: DATA TRANSMISSION METHOD BY POLLING AND TERMINAL APPARATUS FOR
USE IN THE METHOD

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

December 20, 2001

Sir:

Prior to examination on the merits, please amend the above-identified application as follows:

IN THE ABSTRACT:

Delete the current Abstract and replace therewith the attached substitute Abstract.

IN THE SPECIFICATION:

Amend the specification as follows:

Please replace the paragraph beginning at page 1, line 13 with the following rewritten paragraph:

In recent years, data transmission systems, in which a plurality of terminal apparatuses are

connected with a host apparatus to execute a data transmission between them, have been widely used. In these transmission systems, a plurality of terminal apparatuses are connected simultaneously to a communication line, and data transmission is carried out by a host apparatus conducting polling of a corresponding terminal apparatus.

Please replace the paragraph beginning at page 2, line 6 with the following rewritten paragraph:

For example, when a system as described above is constructed, new IDs should be determined for the respective terminal apparatus which will be connected to a host apparatus of the system. In addition, the newly determined IDs of the respective terminal apparatus should be registered to the host apparatus. These procedures to determine and register the respective IDs of the terminal apparatus in the data transmission system are not easy and require the efforts of a system engineer. In addition, when introducing more terminal apparatuses to the system later, the same procedures mentioned above should be repeated to determine and register the IDs of the new terminal apparatuses.

Please replace the paragraph beginning at page 2, line 34 with the following rewritten paragraph:

The present invention was made to overcome the above mentioned problems of the prior art. Therefore, the object of the present invention is to provide a data transmission method whose ID management is easier than a conventional method and which is able to omit a reestablishing

procedure of a new ID when a terminal apparatus is replaced with a new one.

Please replace the paragraph beginning at page 3, line 24 with the following rewritten paragraph:

According to the above feature, the method of the present invention does not require fixed determination of an ID of the terminal apparatus, thus overcoming the problems of the prior art methods mentioned previously. In recent years, particularly, devices used to construct terminal apparatuses usually contain a system timer, and therefore, little effort is required to construct a terminal apparatus which can be used with the data transmission method of the present invention.

Please replace the paragraph beginning at page 3, line 33 with the following rewritten paragraph:

In another feature of the present invention, the host apparatus compares timer values of respective terminal apparatuses when the system includes a plurality of terminal apparatus and some of them forward communication requests simultaneously in response to a transmission request sent by the host apparatus. Then, the host apparatus gives a priority to one of the terminal apparatuses according to the compared result and establishes an ID for the terminal apparatus having a priority according to its timer value.

Please replace the paragraph beginning at page 4, line 6 with the following rewritten paragraph:

Due to the above feature, the present invention is able to give the priority to one of the terminal apparatuses by a very easy procedure. Therefore, the host apparatus is not required to keep information regarding which terminal apparatus has priority and other information regarding the priority sequence among a plurality of terminal apparatuses. Accordingly, the present invention can flexibly deal with the replacement of a terminal apparatus or addition of more terminal apparatus in a data transmission system.

Please replace the paragraph beginning at page 4, line 18 with the following rewritten paragraph:

In still another feature of the present invention, a terminal apparatus is provided which is suitable for use with the transmission methods mentioned above. This terminal apparatus comprises a timer for counting time intervals, a memory for storing a value of said timer when the terminal apparatus can communicate with the host apparatus, and a controller for forwarding a reply to a transmission request which is received from the host apparatus, said controller incorporating said timer value into a reply and forwarding it to the host apparatus.

Please replace the paragraph beginning at page 7, line 7 with the following rewritten paragraph:

In one embodiment, host apparatus 4 comprises a host computer such as a general purpose computer, minicomputer or a workstation, and each terminal apparatus 2a, 2b, ... or 2n is comprised of a communication adapted 10 and a hand-held type portable terminal 8 as shown in Fig. 2. In

another embodiment, each terminal apparatus may comprise a personal computer. In still another embodiment, each terminal apparatus may comprise a POS (point-of-sale) terminal. In a further embodiment, a hand-held type portable terminal, a personal computer and a POS terminal may coexist as the terminal apparatuses.

Please replace the paragraph beginning at page 7, line 30 with the following rewritten paragraph:

The portable terminal 8 is carried for use by a user, and therefore, is driven by a battery incorporated therein as a power supply. As shown in Fig. 2, each portable terminal 8 is a hand-held terminal and comprises an input part 12 for inputting various kinds of information by a user and a display part 14 for displaying, for example, inputted information and instructions. Various kinds of input devices have been known such as a key board and a touch panel. Since the structural differences between these input devices are not directly related to the implementation of the present invention, the structure of such an input device will not be described in detail here.

Please replace the paragraph beginning at page 9, line 3 with the following rewritten paragraph:

The collected data are transferred to the host apparatus, for example, host computer, and they are processed to obtain necessary information. A method that uses a communication adapter for data transmission from a portable terminal to a host computer is widely known. In this method, a portable terminal is inserted into a communication adapter, which is connected to a host computer through

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a communication line, and information stored in the portable terminal is transferred to the host computer through the communication adapter. A connector for forwarding and receiving information is provided, respectively, for each of the portable terminals and the adapters.

IN THE CLAIMS:

Cancel claims 10-18.

REMARKS

Claims 1-9 and 19-20 are pending in this application, none of which have been amended.

No new claims have been added.

The aforementioned amendments to the specification have been made to correct various grammatical, idiomatic and spelling errors. No new matter has been added.

In view of the aforementioned amendments and accompanying remarks, claims 1-9 and 19-20 are in condition for examination, which action, at an early date, is requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

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In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees which may be due with respect to this paper, may be charged to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Version With Markings To Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Abstract:

The Abstract has been amended as follows:

[In a] A data transmission method [according to the present invention,] in which a transmission request is forwarded from a host apparatus to a terminal apparatus. When receiving the transmission request, the terminal apparatus forwards as communication request to the host apparatus. In this communication request, a timer value of a system timer included in the terminal apparatus is incorporated. Having received the communication request including the timer value, the host apparatus establishes an ID for the terminal apparatus according to the timer value. Then, the host apparatus conducts polling for collecting data from the terminal apparatus using the established ID.

In the Specification:

Amend the specification as follows:

Paragraph beginning at line 13 of page 1 has been amended as follows:

In recent years, data transmission systems, in which a plurality of terminal [apparatus] apparatuses are connected with a host apparatus to execute a data transmission between them, have been widely used. In these transmission systems, a plurality of terminal apparatuses are

connected simultaneously to a communication line, and data transmission is carried out by a host apparatus conducting polling of a corresponding terminal apparatus.

Paragraph beginning at line 6 of page 2 has been amended as follows:

For example, when a system as described above is constructed, new IDs should be determined for the respective terminal apparatus which will be connected to a host apparatus of the system. In addition, the newly determined IDs of the respective terminal apparatus should be registered to the host apparatus. These procedures to determine and register the respective IDs of the terminal apparatus in the data transmission system are not easy and require the efforts of a system engineer. In addition, when introducing more terminal [apparatus] apparatuses to the system later, the same procedures mentioned above should be repeated to determine and register the IDs of the new terminal apparatuses.

Paragraph beginning at line 34 of page 2 has been amended as follows:

The present invention was made to overcome the above mentioned problems of the prior [arts] art. Therefore, the object of the present invention is to provide a data transmission method whose ID management is easier than a conventional method and which is able to omit a reestablishing procedure of a new ID when a terminal apparatus is replaced with a new one.

Paragraph beginning at line 24 of page 3 has been amended as follows:

According to the above feature, the method of the present invention does not require

fixed determination of an ID of the terminal apparatus, thus overcoming the problems of the prior art methods mentioned previously. In recent years, particularly, devices used to construct terminal apparatuses usually contain a system timer, and therefore, [not much] little effort is required to construct a terminal apparatus which can be used with the data transmission method of the present invention.

Paragraph beginning at line 33 of page 3 has been amended as follows:

In another feature of the present invention, the host apparatus compares timer values of respective terminal [apparatus] apparatuses when the system includes a plurality of terminal apparatus and some of them forward communication requests simultaneously in response to a transmission request sent by the host apparatus. Then, the host apparatus gives a priority to one of the terminal apparatuses according to the compared result and establishes an ID for the terminal apparatus having a priority according to its timer value.

Paragraph beginning at line 6 of page 4 has been amended as follows:

Due to the above feature, the present invention is able to give the priority to one of the terminal [apparatus] apparatuses by a very easy procedure. Therefore, the host apparatus is not required to keep information regarding which terminal apparatus has priority and other information regarding the priority sequence among a plurality of terminal apparatuses. Accordingly, the present invention can flexibly deal with the replacement of a terminal apparatus or addition of more terminal apparatus in a data transmission system.

Paragraph beginning at line 18 of page 4 has been amended as follows:

In still another feature of the present invention, a terminal apparatus is provided which is suitable for use with the transmission methods mentioned above. This terminal apparatus [is comprised of] comprises a timer for counting time intervals, a memory for storing a value of said timer when the terminal apparatus can communicate with the host apparatus, and a controller for forwarding a reply to a transmission request which is received from the host apparatus, said controller incorporating said timer value into a reply and forwarding it to the host apparatus.

Paragraph beginning at line 7 of page 7 has been amended as follows:

In one embodiment, host apparatus 4 [is comprised of] comprises a host computer such as a general purpose computer, minicomputer or a workstation, and each terminal apparatus 2a, 2b, ... or 2n is comprised of a communication adapted 10 and a hand-held type portable terminal 8 as shown in Fig. 2. In another embodiment, each terminal apparatus may [be comprised of] comprise a personal computer. In still another embodiment, each terminal apparatus may [be comprised of] comprise a POS (point-of-sale) terminal. In a further embodiment, a hand-held type portable terminal, a personal computer and a POS terminal may [be coexisted] coexist as the terminal apparatuses.

Paragraph beginning at line 30 of page 7 has been amended as follows:

The portable terminal 8 is carried for use by a user, and therefore, is driven by a battery incorporated therein as a power supply. As shown in Fig. 2, each portable terminal 8 is a hand-

held terminal and [comprised of] comprises an input part 12 for inputting various kinds of information by a user and a display part 14 for displaying, for example, inputted information and instructions. Various kinds of input devices have been known such as a key board and a touch panel. Since the structural differences between these input devices are not directly related to the implementation of the present invention, the structure of such an input device will not be described in detail here.

Paragraph beginning at line 3 of page 9 has been amended as follows:

The collected data are transferred to the host apparatus, for example, host computer, and they are processed to obtain necessary information. A method that uses a communication adapter for data transmission from a portable terminal to a host computer is widely known. In this method, a portable terminal is inserted into a communication adapter, which is connected to a host computer through a communication line, and information stored in the portable terminal is transferred to the host computer through the communication adapter. A connector for forwarding and receiving information is provided, respectively, for each of the portable terminals and the adapters.

In the Claims:

Claims 10-18 have been canceled.

ABSTRACT OF THE DISCLOSURE

A data transmission method in which a transmission request is forwarded from a host apparatus to a terminal apparatus. When receiving the transmission request, the terminal apparatus forwards as communication request to the host apparatus. In this communication request, a timer value of a system timer included in the terminal apparatus is incorporated. Having received the communication request including the timer value, the host apparatus establishes an ID for the terminal apparatus according to the timer value. Then, the host apparatus conducts polling for collecting data from the terminal apparatus using the established ID.